# Defining the Priorities and Challenges for the Adoption of Information Technology in HealthCare: Opinions from an Expert Panel

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*The Harvard Interfaculty Initiative developed a tool to assess the level of Information Technology adoption at healthcare organizations and asked an expert panel to rate the clinical functions where IT-based solutions can impact quality of care. The experts were asked to identify high priority areas where IT might impact quality, and to rate the difficulty in implementation associated with that solution. While scores from the expert panel varied widely in assessing difficulties in implementation of IT, there was broad consensus on high priority areas.*

## Introduction

Quality of American healthcare is variable and often inadequate[1]. The adoption of information technologies (IT) based solutions has been proposed by the Institutes of Medicine[2], as well as other leading healthcare organizations, as a way to bridge the quality chasm. However, the adoption of such technologies has been poorly understood, partly because of a lack of a consistent tool to measure the extent of adoption of IT in any healthcare organization. Therefore, we sought to define and prioritize IT-based clinical solutions that can improve quality of care and rank them based on potential impact on quality as well as ease of implementation given today's technology.

## Methods

We began by identifying clinical solutions where IT can potentially make an important impact. This was done by searching the literature on previous work as well as by an evaluation of various reports. After identifying health care functionalities that could significantly impact the quality of care that patients receive, we convened a national panel of experts in information technology and asked them to rate each IT solutions on a seven-point Likert scale for potential impact on quality of care as well as ease of implementation given today's technology.

## Results

We identified 28 different functional areas under five major clinical domains that could improve quality. The five domains were: Improving patient / consumer health, improving clinical decision-making, improving communication, improving organizational quality and efficiency, and improving public health. Of the 28 different functionalities identified, five were consistently rated highly on quality impact: Computerized physician prescribing (mean = 6.3, range 6 to 7) Electronic medical records (mean = 6.0, range 5 to 7), the availability of clinical data across a spectrum of care (mean = 5.8, range 5 to 7), automated drug dispensing systems such as "smart pumps" (mean = 5.2, range 4 to 6) and electronic capture of clinical data that allows for quality improvement (mean = 5.0, range 4 to 6). There was general agreement in scores between the panel members regarding the potential impact on quality for each of the functionalities.

In contrast, we found large variation in scores for ease of implementation. For the functionalities mentioned, scores ranged widely: computerized physician prescribing (mean = 3.8, range 2 to 7), electronic medical records (mean = 4.3, range 2 to 7), availability of clinical data across a spectrum of care (mean = 4.0, range 1 to 6), automated drug dispensing systems (mean = 4.8, range 3 to 7) and electronic capture of clinical data that allows for quality improvement (mean = 4.4, range 2 to 7).

## Discussion

Using a combination of literature review and expert panel scoring, we identified 5 IT-based clinical solutions with the greatest potential impact on quality. These 5 solutions were consistently viewed by the expert panel to be high impact, but there was less agreement on the ease of implementation of these solutions, highlighting how improving adoption remains challenging. Our future work will focus on using these high priority areas to develop a survey tool that will elaborate the barriers to their adoption.

1.Bodenheimer T. The American health care system. The movement for improved quality in health care. N Engl J Med 1999; 340:488-92.

2.Corrigan JM, Donaldson MS, Kohn LT, (eds). Crossing the quality chasm. Washington, D.C.: National Academy Press, 2001.